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10/079,401	02/22/2002	Teruyuki Ishibashi	020217	7012

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EXAMINER	
DOLE, TIMOTHY J	

ART UNIT	PAPER NUMBER
2858	

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/079,401	ISHIBASHI ET AL.	
	Examin r	Art Unit	
	Timothy J. Dole	2858	MW

-- The MAILING DATE of this communication app ars on th c ver sh et with th corr sp nd nce addr ss --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 15 October 2003.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-10 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-10 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 22 February 2002 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, and 4-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Strong et al. (USPN 5,937,505).

Referring to claim 1, Strong et al. discloses a method for testing the crimped state of a test terminal on the basis of a waveform of characteristic values obtained in the process of crimping the test terminal on a core of an electric wire, comprising the steps of: acquiring a reference waveform from a characteristic waveform when a first terminal has been crimped normally (column 6, line 54 – column 7, line 10), and dividing the reference waveform into first plural reference waveform segments (column 6, lines 51-53), the reference waveform showing changes in load corresponding to time elapsed when the first terminal is crimped normally, each of the first plural reference waveform segments corresponding to a segment of time elapsed when the first terminal is crimped normally; dividing the waveform obtained when the test terminal is crimped on the electric wire into second plural waveform segments corresponding to those of the reference waveform (column 6, lines 34-37); and deciding whether or not the crimped state of the test terminal is good on the basis of the first reference waveform segments of

the reference waveform and the second waveform segments of the waveform obtained when the test terminal is crimped (column 6, lines 42-45). It should be noted that even though Strong et al. shows graphs of the load changing with respect to ram displacement, the ram displacement is directly related to the time that has elapsed during the crimping process. Therefore the reference waveform shows changes in load that correspond to the time elapsed during the crimping process.

Referring to claim 2, Strong et al. discloses the method as claimed wherein singular points of the reference waveform are previously acquired on the basis of increments of the reference waveform (column 6, lines 51-53); and said first reference waveform segments contain said singular points (column 6, lines 38-41).

Referring to claim 4, Strong et al. discloses a method for testing the crimped state of a test terminal on the basis of a waveform of characteristic values obtained in the process of crimping the test terminal on a core of an electric wire, comprising the steps of: acquiring a reference waveform from a characteristic waveform when a first terminal has been crimped normally (column 6, line 54 – column 7, line 10), the reference waveform showing changes in load corresponding to time elapsed when the first terminal is crimped normally; acquiring singular points of the reference waveform on the basis of increments thereof (column 6, lines 51-53), the increments corresponding at least to a maximum change in load per unit time and a zero change per unit time (column 4, lines 32-40); acquiring first reference waveform segments which are segments containing the singular points (column 6, lines 38-41); acquiring second waveform segments containing points corresponding to said singular points in the waveform obtained when the test

terminal has been crimped on the electric wire (column 6, lines 34-37); and deciding whether or not the crimped state of the test terminal is good on the basis of said first reference waveform segments and said second waveform segments (column 6, lines 42-45). It should be noted that as stated in claim 1, above, the reference waveform is considered to show changes in load corresponding to the time elapsed during crimping. It should be noted that since the measurements are taken with such a small sampling interval, the singular points would exist at points where the increment of the reference waveform is a maximum change in load per unit time or a zero change in load per unit time.

Referring to claim 5, Strong et al. discloses the method as claimed wherein said singular points are points where the increments of said reference waveform correspond to at least one selected from among a maximum change in load per unit time and a zero change in load per unit time (column 4, lines 32-40). It should be noted that as stated in claim 4, above, the singular points are considered to exist at points where the increment of the reference waveform is a maximum change in load per unit time or a zero change in load per unit time.

Referring to claim 6, Strong et al. discloses a method for testing the crimped state of a test terminal on the basis of a waveform of the characteristic values obtained in the process of crimping the terminal on a core of an electric wire, comprising the steps of: acquiring a reference waveform from a characteristic waveform when a first terminal has been crimped normally (column 6, line 54 – column 7, line 10), and acquiring reference characteristic values at regular intervals of the reference waveform (column 6, lines 51-

53), the reference waveform showing changes in load corresponding to time elapsed when the first terminal is crimped normally; acquiring characteristic values of the waveform obtained when the test terminal has been crimped on the electric wire, at said regular intervals (column 6, lines 34-37); and deciding whether or not the crimped state of the test terminal is good on the basis of said reference characteristic values and the characteristic values of the waveform obtained when the test terminal has been crimped (column 6, lines 42-45). It should be noted that as stated in claim 1, above, the reference waveform is considered to show changes in load corresponding to the time elapsed during crimping.

Referring to claim 7, Strong et al. discloses the method as claimed wherein said electric wire has a coating for coating said core (fig. 1), said test terminal has caulking legs for caulking said core (fig. 1), a first poorness waveform (column 6, lines 34-37) is acquired from the waveform obtained when the test terminal is crimped when said caulking legs caulk said coating as well as said core (column 1, lines 33-35), and a first singular point of said singular points is acquired from said reference waveform and said first poorness waveform (column 6, lines 51-53).

Referring to claim 8, Strong et al discloses the method as claimed wherein said first singular point is defined by a point where a characteristic value of said first poorness waveform exceeds that of said reference waveform as the time of the crimping of the test terminal elapses (column 6, lines 44-47). It should be noted that if the core crimping section additionally crimps the coating of the wire, the poorness waveform would exceed

the reference waveform since more force would initially be needed to puncture the coating.

Referring to claim 9, Strong et al. discloses the method as claimed wherein said core is composed of a plurality of conductors tied up in a bundle (fig. 1); said test terminal has caulking legs for caulking said core (fig. 1); a second poorness waveform is acquired from the waveform obtained when the test terminal is crimped when said caulking legs caulk conductors whose number is smaller than that when the first terminal has been normally crimped (column 1, lines 33-35); and a second singular point is acquired from said reference waveform and said second poorness waveform (column 6, lines 51-53).

Referring to claim 10, Strong et al. discloses the method as claimed wherein said second singular point is defined by a point where a characteristic value of said second poorness waveform falls below that of said reference waveform as the time of the crimping of the test terminal elapses (column 6, lines 44-47). It should be noted that if the core crimping section misses some of the strands of the wire, the poorness waveform would fall below the reference waveform since less force would be required to crimp the wire due to a smaller overall diameter.

3. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Strong et al. (5,197,186).

Referring to claim 1, Strong et al. discloses a method for testing the crimped state of a test terminal on the basis of a waveform of characteristic values obtained in the process of crimping the test terminal on a core of an electric wire, comprising the steps

of: acquiring a reference waveform from a characteristic waveform when a first terminal has been crimped normally (column 8, lines 14-15), and dividing the reference waveform into first plural reference waveform segments (column 8, lines 14-15), the reference waveform showing changes in load corresponding to time elapsed when the first terminal is crimped normally, each of the first plural reference waveform segments corresponding to a segment of time elapsed when the first terminal is crimped normally; dividing the waveform obtained when the test terminal is crimped on the electric wire into second plural waveform segments corresponding to those of the reference waveform (column 8, lines 5-13); and deciding whether or not the crimped state of the test terminal is good on the basis of the first reference waveform segments of the reference waveform and the second waveform segments of the waveform obtained when the test terminal is crimped (column 8, lines 17-21). It should be noted that even though Strong et al. shows graphs of the load changing with respect to ram displacement, the ram displacement is directly related to the time that has elapsed during the crimping process. Therefore the reference waveform shows changes in load that correspond to the time elapsed during the crimping process.

Referring to claim 3, Strong et al. discloses the method as claimed wherein singular points of the reference waveform are previously acquired on the basis of increments of the reference waveform (column 8, lines 14-15); and said first reference waveform segments are located between the singular points (column 8, lines 17-19).

Response to Arguments

4. Applicant's arguments with respect to claims 1, 4 and 6 have been considered but are moot in view of the new ground(s) of rejection.

5. Regarding Applicants argument with respect to claims 1, 4 and 6, that Strong does not disclose the " reference waveform showing changes in load corresponding to time elapsed when the first terminal is crimped normally", it should be noted that as stated in claim 1, above, the load of Strong is shown to change with respect to ram displacement, which is directly related to time. Therefore, Strong is considered to show load changes corresponding to the time elapsed during crimping.

Final Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Dole whose telephone number is 703-305-7396. The examiner can normally be reached on Mon. thru Fri. from 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on 703-308-0750. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TJD

Tim J. Dole

N. Le
Supervisory Patent Examiner
Technology Center 2800